

EXHIBIT 13



DORRIS AND ASSOCIATES INTERNATIONAL, LLC

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December 20, 2013

Mr. Teirney Christenson
Yost & Baill, LLP
745 Mayfair Bank Tower
2300 North Mayfair Road
Milwaukee, WI 53226

Re: Freeman v. Electrolux Home Products, Inc.

Dear Mr. Christenson:

As requested, the following is a report pertaining to opinions that I will offer in the litigation referenced above.

QUALIFICATIONS

My background, publications and professional certifications are provided on my attached curriculum vitae. Briefly, my area of experience and expertise, pertinent to this litigation, is human factors, warnings and communications pertaining to product safety. I hold a Ph.D. and a Master of Industrial and Systems Engineering from Auburn University where my area of specialization was Human Factors Engineering (HFE), including advanced courses in Human Factors, Safety Engineering, and Ergonomics. The National Institute for Occupational Safety and Health (NIOSH) Deep South Education and Research Center funded my graduate studies. I also hold a Master of Business Administration degree from Tulane University and a Bachelor of Chemical Engineering degree from the Georgia Institute of Technology. In addition, I have been certified by the Board of Certified Safety Professionals (BCSP).

During my professional work experience, I have routinely performed evaluations of the design and development of warnings, product instructions and similar precautionary information for consumer products, including products used both at work and at home. I also have led safety reviews for industrial processes and worked for over seven years in manufacturing environments. Dorris and Associates International, LLC provides product safety services to a wide variety of entities.

Clients include corporations, non-profit organizations, trade associations, state and federal governmental agencies, as well as defense and plaintiffs' attorneys. Client services have been performed in the U.S., Canada, U.K., France, Germany, Spain, Belgium, Australia and Japan.

I have given numerous presentations and authored various articles on the design of warnings and behavioral responses to safety messages. Dorris and Associates International, LLC charges \$185 per hour plus expenses for my services in this litigation and, at the time of this report, I have not testified as an expert at trial or by deposition.

MATERIALS REVIEWED

In my analysis of this matter, I have reviewed the following materials specific to this case:

- Third Amended Complaint
- Electrolux Home Products, Inc.'s Answer and Affirmative Defenses to the Third Amended Complaint with Jury Demand
- Plaintiff American Family Mutual Insurance Company as Subrogee of Paul Freeman's Answers to Defendant's Interrogatories
- Plaintiff American Family Mutual Insurance Company as Subrogee of Paul Freeman's Response to Defendant's Request for Production of Documents
- Tichigan Fire Department Report, 5/10/2011
- Electrolux Venting Kit, <http://www.electrolux-store.com/electrolux-venting-kit.html>, 7/18/2012
- Electrolux Service Manual, 27" Dryers, Gas & Electric Models, September 2002
- Photographs of Laundry Center Warning Labels
- Label – Warning Flex Duct, B1373339, 3/8/2010
- Use & Care Guide Gas & Electric Dryer, P/N 137102300 (0806), retrieved from <http://manuals.frigidaire.com/pro> dinfo_pdf/Webster/137102300een.pdf
- Installation Instructions Gas & Electric Dryer, P/N 137101400 (0806), retrieved from <http://manuals.frigidaire.com/pro> dinfo_pdf/Webster/137101400.pdf
- Deposition of Paul Freeman, with exhibits, 10/22/2013
- Deposition of Shannon Freeman, 10/22/2013
- Inspection Photos Taken by David DeWolf, 5/15/2011
- Inspection Photos Taken by Bruce Otto, 5/31/2011
- Report Authored by David DeWolf, 10/24/2011
- American National Standard Z21.5.1-2002, Gas Clothes Dryers, Volume I – Type 1 Clothes Dryers
- Consumer Product Safety Commission Document #5022, June 2003, Overheated Clothes Dryers Can Cause Fires.
- FEMA Topical Fire Research Series, Volume 7, Issue 1/January 2007, Clothes Dryer Fires in Residential Buildings
- NFPA, March 2009, Home Fires Involving Clothes Dryers and

- Washing Machines by John R. Hall, Jr.
- Consumer Product Safety Commission, Consumer Opinion Forum, Survey #3, September 2010, Clothes Dryer Maintenance
- Consumer Product Safety Commission, June 1, 2011, An Evaluation of Using Indicators to Inform Consumers of Clothes Dryer Status
- Whirlpool Use and Care Guide, Part No. 3396304, 1994
- Deposition of Carl King (Stout and Coles v. Electrolux Home Products, Inc.), with exhibits, 5/22/2013
- AHAM Analysis of Industry Data on Clothes Dryer Fire Incidents, August 2002
- Depositions from over 100 Electrolux dryer owners, see Appendix A

The evidence in this matter is the subject dryer was manufactured in June of 2008. Neither the Use & Care Guide nor the Installation Instructions were provided with the file materials for this matter. Representative versions of the Use & Care Guide and the Installation Instructions, both with a revision date of June 2004, were available on the manufacturer's website for model number GLGQ2152ES. I am aware that this may not be the model number for the subject dryer. In the event the model number for the subject dryer or the Use & Care Guide and Installation Instructions are provided by Electrolux in the future, I will reserve my right to supplement my report with the model specific information. The Use & Care Guide Gas & Electric Dryer, P/N 137102300 (0806) and the Installation Instructions Gas & Electric Dryer, P/N 137101400 (0806) have been assumed to be representative of the information that may have accompanied the subject dryer, and will be referred to as the June 2008 Use & Care Guide and the June 2008 Installation Instructions respectively for the remainder of this report.

In addition to the above materials, my opinions are based upon my education and training in the fields of Human Factors Engineering (HFE) and product safety, my familiarity with the safety aspects of the published literature and standards in these fields.

WARNINGS RESEARCH

Over the past quarter of a century there has developed a sizable body of literature on behavioral responses to warnings. Since the design of safety communications and the systematic analysis of responses to those communications is an aspect of HFE, many of the studies are reported in the HFE literature. The fact that warning analysis has developed into an empirical scientific field of behavioral study is evidenced by:

- Existence of a substantial amount of literature, much of it refereed, evidencing a range of research methodologies;
- Empirical evidence that lay persons are not able to predict with statistical reliability the effectiveness of safety signs or labels.

Significant reviews of this literature can be found in McCarthy et al. (1984), DeJoy (1989), Ayres et al. (1998) and Rogers et al. (2000).

USE OF WARNINGS

A commonly cited definition of a warning is "...a message intended to reduce the risk of personal or property damage by inducing certain patterns of behavior and discouraging or prohibiting certain other patterns of behavior" (Dorris & Purswell, 1978). There is broad agreement that warnings should endeavor to communicate:

1. Nature of the hazard;
2. Means of avoiding the hazard;
3. Consequences of failing to avoid the hazard.

Not all of these elements will be necessary in all circumstances and need not be explicitly included in the warning.

Not all potential hazards are appropriately addressed by a warning. A potential hazard from a manufacturing problem, such as a deviation from specifications, would not be a warnings subject, but a matter to be corrected by the manufacturer. An alleged design problem is most appropriately dealt with by design modifications. As an extreme example, a manufacturer would not sell a product with a warning not to use the product under any circumstances.

FACTS AND OPINIONS

On the basis of my education and experience as outlined above and on the attached curriculum vitae, the literature on human factors and warnings including but not limited to those referenced above, and the materials reviewed for this case as listed above, I have reached the following opinions that I hold to a reasonable degree of scientific certainty:


1. *The Warnings Regarding Cleaning the Interior of the Dryer in the June 2008 Use & Care Guide Are Unlikely to be Followed*

The June 2008 Use & Care Guide contains a number of warnings, some of which pertain to the increased risk of fire as lint accumulates within the dryer. The warnings regarding cleaning the interior of the dryer in the June 2008 Use & Care Guide provided with the dryer were inadequate in terms of location and content. The message under the heading Prevent Fire that could arguably pertain to this fire states "[t]he interior of the dryer, lint screen housing and exhaust duct should be cleaned approximately every 18 months by qualified service personnel" as shown in Figure 1.

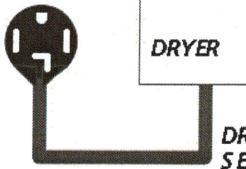
"The interior of the dryer, lint screen housing and exhaust duct should be cleaned approximately every 18 months by qualified service personnel. An excessive amount of lint build-up in these areas could result in inefficient drying and possible fire."

ELECTRIC DRYERS:

14-30R



FUSED 30 AMP
120/240 V OR
120/208 V WALL
RECEPTACLE

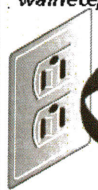


DRYER
DRYER SERVICE
CORD


CORRECT
Use this way ONLY

GAS DRYERS:

Grounding type
wall receptacle



Do not under any
circumstances cut,
remove or bypass the
grounding prong
from this plug



Power supply cord with 3-prong
grounding plug

CORRECT Use this way ONLY

Important Safety Instructions Can't

⚠ WARNING Avoid fire hazard or electrical shock. Do not use an adaptor plug or extension cord or remove grounding prong from electrical power cord. Failure to follow this warning can cause serious injury, fire or death.

Note: The instructions appearing in this Use and Care Guide are not meant to cover every possible condition and situation that may occur. Common sense and caution must be practiced when installing, operating and maintaining any appliance.

⚠ WARNING You can be killed or seriously injured if you don't follow these **Important Safety Instructions**:

- To reduce the risk of fire, electrical shock, or injury to persons when using this dryer, comply with the basic warnings listed below.
- Failure to comply with these warnings could result in serious personal injuries.

Prevent Fire

- Do not dry items that have been previously cleaned in, soaked in, or spotted with gasoline, cleaning solvents, kerosene, waxes, etc. Do not store these items on or near the dryer. These substances give off vapors that could ignite or explode.
- Do not place items exposed to cooking oils in your dryer. Items contaminated with cooking oils may contribute to a chemical reaction that could cause a load to catch fire.
- Do not dry articles containing rubber, plastic or similar materials such as bras, galoshes, bath mats, rugs, bibs, baby pants, plastic bags and pillows that may melt or burn. Some rubber materials, when heated, can under certain circumstances produce fire by spontaneous combustion.
- Clean the lint screen before or after each load. The interior of the dryer, lint screen housing and exhaust duct should be cleaned approximately every 18 months by qualified service personnel. An excessive amount of lint build-up in these areas could result in inefficient drying and possible fire. See **Care and Cleaning**.
- Do not operate the dryer if the lint screen is blocked, damaged or missing. Fire hazard, overheating and damage to fabrics can occur. If your dryer has a drying rack, always replace the lint screen when finished using the drying rack.
- **- Risk of Fire -** A clothes dryer produces combustible lint. The dryer must be connected to an exhaust outdoors. Regularly inspect the outdoor exhaust opening and remove any accumulation of lint around the outdoor exhaust opening and in the surrounding area.
- Do not obstruct the flow of ventilating air. Do not stack or place laundry or throw rugs against the front or back of the dryer.
- Do not spray any type of aerosol into, on or near dryer at any time.
- Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
- Failure to comply with these warnings could result in fire, explosion, serious bodily injury and/or damage to the rubber or plastic parts of the dryer.

Protect Children

- Do not allow children to play on or in the dryer. Close supervision of children is necessary when the dryer is used near children. As children grow, teach them the proper, safe use of all appliances.
- Destroy the carton, plastic bag and other packing materials after the dryer is unpacked. Children might use them for play. Cartons covered with rugs, bedspreads or plastic sheets can become airtight chambers.
- Keep laundry products out of children's reach. To prevent personal injury, observe all warnings on product labels.
- Before the dryer is removed from service or discarded, remove the dryer door to prevent accidental entrapment.
- Failure to comply with these warnings could result in serious personal injuries.

SAVE THESE INSTRUCTIONS

3

Printed in U.S.A.

Figure 1. June 2008 Use & Care Guide, pg. 3

It is unreasonable for a manufacturer to rely upon this warning to avoid a fire for a number of reasons:

- The phrase “interior of the dryer” is ambiguous and could reasonably be interpreted to mean the portions of the dryer interior that are visible upon opening the door. It is not clear partial disassembly of the dryer is required to comply.
- Most consumers would have difficulty incorporating an 18-month interval into their schedule. Even assuming a consumer read the June 2008 Dryer Use & Care Guide and became aware of the 18-month interval, few consumers would have a mechanism to recall 1½ years after installation, after potentially hundreds of loads of clothes, service was needed for no apparent reason.
- As it relates to providing safety information regarding the 18-month interval, Electrolux is not consistent in providing this information across all models. When asked which products have an on-product warning to clean the interior of the dryer, Mr. King stated “[o]ur laundry center had a similar warning” (C. King deposition (Stout and Coles v. Electrolux), 5/22/2013, pg. 73). Indeed, even if a label to this effect was placed on the dryer, such as is the case for the laundry center dryer (Photographs of Laundry Center Warning Labels), the reminder of an 18-month interval does not specify when the last service took place or when the next service is needed.
- The “cost of compliance” is simply too high for many consumers to comply with this warning. This cost can encompass the inconvenience and difficulty of performing the specified behavior, as well as monetary cost. “Cost of compliance” is a barrier to achieving warnings compliance and is one of the most consistent findings of warnings research (Dingus, Hathaway & Hunn, 1991 and Rogers, Lamson & Rousseau, 2000). It is not realistic to expect consumers will remember the service interval, make an appointment, arrange to meet a service person, and pay the expense for the service when the product evidences no apparent problems. The CPSC states “[a] service call to clean the accumulated lint within the dryer can be costly and inconvenient to the customer, and therefore the consumer may overlook performing this maintenance task until there is an operating problem with the dryer, which may lead to a higher risk of fire” (Consumer Product Safety Commission, Consumer Opinion Forum, Survey #3, Clothes Dryer Maintenance, pg. 15).
- Consumers have an expectation that household appliances (refrigerators, ovens, cook tops, dishwashers, washing machines and similar appliances) are typically serviced on an “as needed” basis. It is not typical to have service performed on appliances that continue to function and are not exhibiting any indications of a potential issue. In my review of depositions for over 100 similar matters, it was neither the custom nor practice for consumers to call “qualified service personnel” to service their dryers at an 18-month interval.

- Given consumers' expectation that appliances will be serviced on an "as needed" basis, consumers may not have an appreciation of lint build-up inside their dryer as a hazard. Electrolux states the following on its website:

"Clean the inside of the dryer, and around its heating element. Most people do not know that lint can build up around the heating element and cause a fire" (Electrolux Venting Kit, <http://www.electrolux-store.com/electrolux-venting-kit.html>).

- Additionally, it is unlikely, even if a consumer complied with the warning and arranged for service by "qualified service personnel", that the service performed would ensure the removal of the lint build-up behind the drum. The June 2008 Use & Care Guide states "[t]he interior of the dryer, lint screen housing and exhaust duct should be cleaned approximately every 18 months by qualified service personnel. An excessive amount of lint build-up in these areas could result in inefficient drying and possible fire" (June 2008 Use & Care Guide, pg. 3). There is no discussion of disassembly of the dryer or lint build-up behind the drum. Further, there is no indication a service professional would remove the drum from the guidance provided by Electrolux in the Electrolux Service Manual for 27" Dryers.

2. *The Installation Instructions Do Not Prohibit Metal (Foil-Type) Duct to be Used as Part of the Dryer Vent System*

The Installation Instructions for the subject dryer are permissive of the use of metal (foil type) duct to be used as part of the dryer vent system provided the metal (foil type) duct complies with UL standard 2158A (Installation Instructions Gas & Electric Dryer, P/N 137101400 (0806), pg. 3) as shown in Figure 2.

ELECTRICAL REQUIREMENTS**ELECTRIC Dryer**

CIRCUIT - Individual 30 amp. branch circuit fused with 30 amp. time delay fuses or circuit breakers.

Use separately fused circuits for washers and dryers, and **DO NOT** operate a washer and a dryer on the same circuit.

POWER SUPPLY - 3 wire or 4-wire, 240 volt, single phase, 60 Hz, Alternating Current.

POWER SUPPLY CORD KIT - 3 wire - the dryer **MUST** employ a 3-conductor power supply cord NEMA 10-30 type SRDT rated at 240 volt AC minimum, 30 amp., with 3 open end spade lug connectors with upturned ends or closed loop connectors and marked for use with clothes dryers. See ELECTRICAL CONNECTIONS FOR A 3-WIRE SYSTEM.

4 wire - The dryer **MUST** employ a 4-conductor power supply cord NEMA 14-30 type SRDT or ST (as required) rated at 240 volt AC minimum, 30 amp., with 4 open end spade lug connectors with upturned ends or closed loop connectors and marked for use with clothes dryers. See ELECTRICAL CONNECTIONS FOR A 4-WIRE SYSTEM.

(Canada - 4-wire power supply cord is installed on dryer.)

WARNING - Risk of Shock. Appliance grounded to neutral conductor through a link. Grounding through the neutral link is prohibited for (1) New branch circuit installations (2) mobile homes; (3) recreational vehicles; and (4) areas where local codes do not permit grounding through the neutral. (1) disconnect the link from the neutral, (2) use grounding terminal or lead to ground appliance in accordance with local codes and (3) connect neutral terminal or lead to branch circuit neutral in usual manner (if the appliance is to be connected by means of a cord kit, use 4-conductor cord for this purpose). USE COPPER CONDUCTOR ONLY.

OUTLET RECEPTACLE - NEMA 10-30R receptacle to be located so the power supply cord is accessible when the dryer is in the installed position. (Canada - NEMA 14-30R receptacle.)



NEMA 10-30R



NEMA 14-30R

GAS Dryer

CIRCUIT - Individual 15 amp. branch circuit fused with a 15 amp. maximum time delay fuse or circuit breaker.

POWER SUPPLY - 3 wire, 120 volt single phase, 60 Hz, Alternating Current.

POWER SUPPLY CORD - The dryer is equipped with a 120 volt 3-wire power cord.

NOTE: Do not under any circumstances remove grounding prong from plug.



GROUNDING PRONG

GAS SUPPLY REQUIREMENTS

WARNING Replace copper connecting pipe that is not plastic-coated. Stainless steel or plastic-coated brass **MUST** be used.

1. Installation **MUST** conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 (latest edition).
2. The gas supply line should be of 1/2 inch (1.27 cm) pipe.
3. If codes allow, flexible metal tubing may be used to connect your dryer to the gas supply line. The tubing **MUST** be constructed of stainless steel or plastic-coated brass.
4. The gas supply line **MUST** have an individual shutoff valve.
5. A 1/8 inch (0.32 cm) N.P.T. plugged tapping, accessible for test gauge connection, **MUST** be installed immediately upstream of the gas supply connection to the dryer.
6. The dryer **MUST** be disconnected from the gas supply piping system during any pressure testing of the gas supply piping system at test pressures in excess of 1/2 psig (3.45 kPa).
7. The dryer **MUST** be isolated from the gas supply piping system during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.45 kPa).

EXHAUST SYSTEM REQUIREMENTS

Use only 4 inch (10.2 cm) diameter (minimum) rigid or flexible **metal** duct and approved vent hood which has a swing-out damper(s) that open when the dryer is in operation. When the dryer stops, the dampers automatically close to prevent drafts and the entrance of insects and rodents. To avoid restricting the outlet, maintain a minimum of 12 inches (30.5 cm) clearance between the vent hood and the ground or any other obstruction.

WARNING The following are specific requirements for proper and safe operation of your dryer. Failure to follow these instructions can create excessive drying times and fire hazards.

WARNING Do not install a clothes dryer with flexible plastic venting materials. If your present system is made up of plastic duct or metal foil duct, **replace it** with a rigid or semi-rigid metal duct. In Canada and the United States if metal (foil type) duct is installed, it must be of a specific type identified by the appliance manufacturer as suitable for use with clothes dryers and in the United States must also comply with the Outline for Clothes Dryer Transition Duct, UL standard 2158A. Flexible venting materials are known to collapse, be easily crushed and trap lint. These conditions will obstruct clothes dryer airflow and increase the risk of fire. Ensure the present duct is free of any lint prior to installing dryer duct.

"In Canada and the United States if metal (foil type) duct is installed, it must be of a specific type identified by the appliance manufacturer as suitable for use with clothes dryers and in the United States must also comply with the Outline for Clothes Dryer Transition Duct, UL standard 2158A."

Figure 2. June 2008 Installation Instructions, pg. 3

3. *Lack of User Feedback Related to Lint Accumulation*

From a human factors engineering perspective, the subject dryer is defective because it fails to provide reasonable or appropriate feedback to the user regarding the increased risk of a fire as lint accumulates in a location not discernible to consumers. Apparently, no accumulation of lint was observable to a consumer who opened the dryer door to inspect the interior. An ordinary consumer would have neither the motivation, nor the expertise, to inspect further. Having had neither functional problems with the dryer, nor any indications of a dangerous condition, the Freemans would have had no reason to be alarmed until immediately after the discovery of the fire by Ms. Freeman (S. Freeman deposition, pgs. 24-25).

When through unexceptional and anticipated use, it is unlikely for a user to detect an unsafe condition and this condition makes it unreasonably dangerous to operate the product, a feedback system must be employed to alert consumers about the increased risk. With respect to the subject dryer, Electrolux could have incorporated feedback to users based on either time (a number of months) or usage (a number of dryer cycles) to inform consumers that the interval between services had elapsed and the interior of the dryer would need to be cleaned by a qualified service person. The feedback to the consumer could have been an indicator light on the control panel in combination with a word message to inform the consumer what actions need to be taken to reduce the risk of a fire.

Other dryer manufacturers have included feedback mechanisms to inform users of lint accumulation. One example was a "lint signal" on Whirlpool dryers that provided an audible alarm to alert users regarding excessive lint on the lint screen (Whirlpool Use and Care Guide, 1994, pg. 15).

CONCLUSION

A consumer's decision not to comply with a warning does not necessarily make that warning inadequate. However, a warning that requires excessive or disproportionate measures for compliance is inadequate.

The warning system associated with the subject dryer, including the precautionary information provided in the June 2008 Use & Care Guide, was inappropriate, inadequate and made the product unreasonably dangerous for ordinary users for the reasons discussed above.

In the event that additional information is made available to me, I reserve the right to supplement or amend my opinions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eric Boelhouwer", with a long horizontal flourish extending to the right.

Eric J. Boelhouwer, Ph.D.
Consultant

Attachments

REFERENCES

- Ayres, T., Wood, C., Schmidt, R., Young, D. & Murray, J. (1998). Effectiveness of warning labels and signs: An update on compliance research. *Proceedings of the Silicon Valley Ergonomics Conference and Exposition*, 199-205.
- DeJoy, D.M. (1989). Consumer product warnings: Review and analysis of effectiveness research. *Proceedings of the Human Factors Society 33rd Annual Meeting*, 936-940.
- Dingus, T.A., Hathaway, J.A. & Hunn, B.P. (1991). A Most Critical Warning Variable: Two Demonstrations of the Powerful Effects of Cost on Warning Compliance. *Proceedings of the Human Factors Society 35th Annual Meeting*, 1034-1038.
- Dorris, A.L. & Purswell, J.L. (1978). Human factors in the design of effective product warnings. *Proceedings of the Human Factors Society 22nd Annual Meeting*, 343-346.
- McCarthy, R.L., Finnegan, J.P., Krumm-Scott, S. & McCarthy, G.E. (1984). Product information presentation, user behavior and safety. *Proceedings of the Human Factors Society 28th Annual Meeting*, 81-85.
- Rogers, W.A., Lamson, N. & Rousseau, G.K. (2000). Warning research: An integrative perspective. *Human Factors*, 42, 102-139.

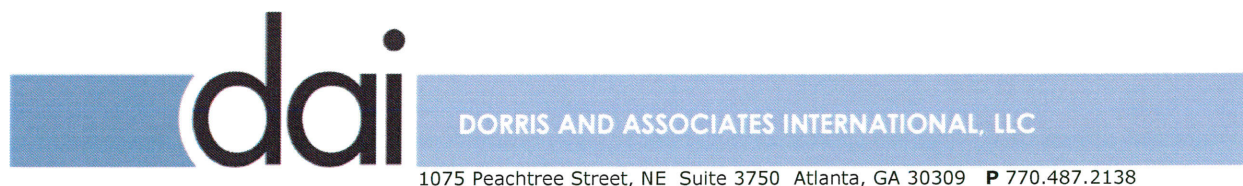
Appendix A

Depositions from over 100 Electrolux dryer owners:

- Deposition of Steve Allen
- Depositions of Dexter & Efma Almario
- Deposition of Elise Altamore
- Deposition of Daniel Baer
- Deposition of Robert Benowsky
- Deposition of Jennifer Bent
- Depositions of Scott Blake, Frank Santos & Karen Stark
- Depositions of Timothy & Laura Bradley
- Deposition of Sharonda Brennan
- Deposition of Jeanne Brossard
- Depositions of Larry & Kimberly Brown
- Deposition of Daniel Brunger
- Deposition of Shareen Bush
- Depositions of Barry & Patricia Byalick
- Depositions of Francisco, Elvira & Francisco Jr. Cabrera
- Deposition of Tekoa Campbell
- Depositions of Michael & Heidi Connolly
- Deposition of Sally Conrad
- Deposition of Monte Cooper
- Deposition of Nunzio D'Amico
- Depositions of Andrea & Lynn Davis
- Deposition of Deborah Debaets
- Deposition of Susan Deener
- Deposition of Patricia Detorrice
- Deposition of Pat Diepen
- Deposition of LeVance Dixon
- Deposition of Levona Dodge
- Depositions of Thomas & Linda Donahue
- Deposition of Sheila Duncan
- Depositions of John & Jan East
- Depositions of Nicholas & Lori Eastman
- Deposition of Kimberly Elam
- Depositions of Fred & Shelly Fisher
- Deposition of Darrell Flippin
- Deposition of Janet Ford
- Deposition of Barbara Francis
- Depositions of Paul & Shannon Freeman
- Deposition of David George
- Depositions of Brian & Melissa Gilboy
- Deposition of Teresa Glover
- Deposition of Yolanda Gomez
- Deposition of Diana Gonzalez
- Deposition of Sheryl Graham
- Deposition of Lawrence Griffiths
- Depositions of Jonathan & Karis Gross
- Deposition of Dorothy Haithcock
- Depositions of Jeffery & Lori Halldow
- Depositions of Mel Haroutounyan & Alenoosh Adamanian
- Deposition of Suzanne Hayrapetian
- Deposition of Monique Harper
- Deposition of Laura Henke

- Deposition of Ingeborg Hilberg
- Deposition of Pamela Hopkins
- Depositions of William & Denise Holt
- Deposition of Billy Huckaby
- Deposition of Wanda Hudgins
- Depositions of Kenneth & Michelle Idsardi
- Deposition of Lashanda Jackson
- Deposition of Thelma Jackson
- Deposition of Michael Jensen
- Depositions of James & Kimberly Joiner
- Depositions of Albert & Brenda Johnson
- Depositions of James & Kathleen Johnson
- Deposition of Charles Larson & Judith Droster
- Deposition of Pamela Lenser
- Deposition of Melissa Longcore
- Deposition of David Kahm
- Depositions of Stanley & Harriet Karas
- Deposition of Patrick Krengielski
- Depositions of David & Heather Kucharski
- Deposition of Michelle Kudulis
- Depositions of Miriam & Courtney Ladd
- Depositions of Brian & Dorene Lantz
- Deposition of James Lewis
- Depositions of Ben & Jackie Link
- Deposition of Jessica Lojocano
- Deposition of James Lucas
- Deposition of Alla MacLemale
- Depositions of John & Lisa Martin
- Deposition of Bonnie Martens
- Deposition of Mia McClendon
- Deposition of Marjorie Medja
- Deposition of Jeffery Morgan
- Deposition of Denine Moscato
- Depositions of William & Donna Myers
- Deposition of Bruce Nemecek
- Deposition of Suzanne Obos
- Deposition of Beverly Orrick
- Deposition of Suellyn Ortmann
- Deposition of Lisa Palubicki
- Deposition of Barbara Philpotts-Kerr
- Deposition of Brian Rasmussen
- Deposition of Abbie Reinhardt
- Deposition of Lorraine Riccobono
- Depositions of Gino & Christina Rizzonelli
- Depositions of Christopher & Shannon Rodriguez
- Depositions of Richard & Suzanne Ruffier
- Deposition of Marilyn Ruggles
- Deposition of Jose Ruiz
- Deposition of Edward Ryan
- Deposition of Dian Savage
- Deposition of Helen Savoroski
- Depositions of Daniel & Nancy Scholten
- Deposition of Gail Sharp
- Depositions of John Shea & Patricia Saunders
- Deposition of Susan Sheets
- Deposition of Kelly Shockley

- Deposition of Dion Simon
- Deposition of Rutha Slaughter
- Deposition of Katherine Smith
- Depositions of Dean & Linda Stephan
- Depositions of John & Alma Stewart
- Depositions of David Stout & Rebecca Coles
- Deposition of Mark Straus
- Deposition of Scott Sutliff
- Deposition of Evan Tranen
- Deposition of Ty Truong
- Deposition of Danielle Uhly
- Depositions of Raul & Shanna Valenzuela
- Deposition of Arthur Wachholz
- Depositions of Keith & Renee Wagner
- Depositions of Christopher & Kristin Waldemar
- Deposition of Allen Webb
- Depositions of Chad & Sharon Wendt
- Deposition of Edward Wesoloski
- Deposition of Jennifer Whicomb
- Depositions of Richard & Mary Wood
- Deposition of April Woresch
- Deposition of Michelle Wright
- Deposition of Barbara Wyms
- Deposition of Rose Wysocki
- Depositions of Gregory & Jennifer Young



Eric J. Boelhouwer, PhD, CSP
Consultant

Professional Profile:

Eric Boelhouwer is a human factors specialist (ergonomist) with professional experience in product safety and the evaluation of instructions, warnings and other safety communications. Dr. Boelhouwer is a Consultant for Dorris and Associates International, LLC. His primary responsibilities include the design and implementation of product safety research, including evaluations of human-machine interfaces, as well as the usability and effectiveness of precautionary information.

Dorris and Associates has a wide variety of clients including private and public corporations, non-profit organizations, trade associations, state and federal governmental agencies, as well as defense and plaintiff's attorneys. Client services have been performed in the U.S., Canada, U.K., France, Germany, Spain, Belgium, Australia and Japan. Products manufactured and/or distributed by these clients range from automobiles and airplanes to everyday consumer products and children's toys.

Education:

PhD, Industrial and Systems Engineering, Auburn University; Auburn, AL (2010)

MISE, Industrial and Systems Engineering, Auburn University; Auburn, AL (2008)

MBA, Business Administration, Tulane University; New Orleans, LA (2004)

BChE, Chemical Engineering, Georgia Institute of Technology; Atlanta, GA (1998)

Professional Affiliations & Service:

Certified Safety Professional (CSP)

Associate Human Factors Professional (AHFP)

American Institute of Chemical Engineers (AIChE), Senior Member

American Society of Safety Engineers (ASSE), Professional Member

Human Factors and Ergonomics Society (HFES)

National Safety Council (NSC)

Society of Automotive Engineers (SAE)

Society for Chemical Hazard Communication (SCHC), Board of Directors, 2013-Present

The Institute of Industrial Engineers (IIE)

Grants, Honors, & Awards:

National Institute for Occupational Safety and Health (NIOSH) Graduate Fellowship

Boelhouwer, E.J. and Davis, G.A. (2009). Improving Comprehension of GHS Safety Data Sheets. Submitted to NIOSH, DSCOHS, Pilot Project Research Training Program. Funded for \$12,000.

Alpha Pi Mu Industrial Engineering Honor Society

2009 INFORMS Doctoral Colloquium Participant

Publications & Reports:

Boelhouwer, E. J., Davis, J., Franco-Watkins, A., Dorris, N. T., and Lungu, C. (2013). Comprehension of hazard communication: Effects of pictograms on safety data sheets and labels. *Journal of Safety Research*, 46, September, 145-155.

Boelhouwer, E. J. and Davis, J. (2010). Effects of GHS Hazard Category, Signal Words, and Pictograms on an Individual's Assessment of Perceived Risk. In *Proceedings of the Human Factors and Ergonomics Society 54th Annual Meeting*, Santa Monica, CA: The Human Factors and Ergonomics Society.

Piper, A.K., Davis, J. and Boelhouwer, E.J. (2010). Converging International Safety Symbol Designs Using Distributed Interactive Evolutionary Computation. In *Proceedings of the 2010 Industrial Engineering Research Conference*, Norcross, GA: Institute of Industrial Engineers.

Boelhouwer, E. J. and Sullivan M. R. (2010). GHS in the USA: Past, Present and Future. In *Safety 2010: ASSE Professional Development Conference Proceedings*, Baltimore, MD: American Society of Safety Engineers.

Boelhouwer, E. J., Piper, A.K., and Davis, J. (2009). The Use of Hazard and Precautionary Symbols on Safety Data Sheets. In *Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting*, Santa Monica, CA: The Human Factors and Ergonomics Society.

Piper, A.K., Davis, G.A., and Boelhouwer, E.J. (2009). Towards the Determination of a Difficulty Factor for Converting Warning Referents into Wordless Safety Symbols. *7th Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium*, Salt Lake City, UT: NIOSH Mountain West Education Resource Center.

Piper, A.K., Boelhouwer, E. J., Davis, G.A., Holman, G.T., and Montgomery, L.S. (2008) Using Hand Drawn Images to Determine Warning Symbol Design Parameters within Interactive

Evolutionary Computation Software. In *Proceedings of the Human Factors and Ergonomics Society 52nd Annual Meeting*, Santa Monica, CA: The Human Factors and Ergonomics Society.

Dorris, N.T., Valimont, R.B., and Boelhouwer, E.J. (2007). Eye Movements While Reading Degraded On-Product Warnings. In *Proceedings of the Human Factors and Ergonomics Society 51st Annual Meeting*, Santa Monica, CA: The Human Factors and Ergonomics Society.

Presentations & Seminars:

"HAZCOM 101: Comprehensibility." Society for Chemical Hazard Communication webinar. February 15, 2011.

"Comprehension of Chemical Product Labels: Effects of Hazard and Precautionary Pictograms." Society for Chemical Hazard Communication Fall Meeting. Washington, D.C. October 6, 2010.

"Putting the Tool Kit into Practice: A Study at Auburn University." Invited panel member. American Industrial Hygiene Conference and Exposition (AIHce). Toronto, Canada. June 2, 2009.

"Twenty-first Century Warnings in a Global World." Defense Research Institute Product Liability Conference, Washington, D.C. April 4, 2013.